

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1 – 20 (cancelled)

21. (Currently Amended). A computer-implemented method for identifying an excess energy capacity in a production supply chain operated by a supply chain operator, comprising:

identifying, by a supply chain optimizer, a potential production configuration for the production supply chain, wherein:

(i) the supply chain operator also operates at least one power generation facility to sustain industrial production by the production supply chain,

(ii) the supply chain operator is capable of both consuming and selling electricity produced by the power generation facility while operating the production supply chain,

(iii) the potential production configuration is related to a target electricity production by the power generation facility, and

(iv) the potential production configuration reduces a production output and energy consumption for at least some portion of the production supply chain or increases electricity production by the power generation facility during a given time period;

determining, using a potential action valuation model, whether to reduce the production output of the production supply chain or increase electricity production by the power generation facility according to the potential production configuration to create the excess energy capacity during the time period; and

if production output is determined to be reduced or electricity production by the power generation facility is determined to be increased, selling the excess energy capacity created by implementing the potential production configuration during the time period for the production supply ~~capacity~~ chain and the power generation facility.

22. (Previously Presented). The method of claim 21, wherein the potential action valuation model determines whether to reduce the production output of the production supply chain using a risk management model.

23. (Previously Presented). The method of claim 22, wherein the risk management model may be configured according to a set of risk tolerance criteria and risk performance criteria.

24. (Previously Presented). The method of claim 21, wherein the forecasted price for electricity during the time period is determined using a forecasting and planning model utilizing historical and real-time data.

25. (Previously Presented). The method of claim 21, wherein, if production output is determined to be reduced, prior to the time period, increasing the production output of the supply chain to prepare of the reduced production of the supply chain for the time period.

26. (Previously Presented). The method of claim 21, wherein a data delivery engine is configured to supply real-time data to the potential action valuation model, the supply chain optimizer, the forecasting and planning model, and the risk management model.

27. (Previously Presented). The method of claim 26, wherein the real-time data includes real-time commodity prices for electricity.

28. (Currently Amended). A computer-readable storage medium containing a program which, when executed, performs operations for identifying an excess energy capacity in a production supply chain operated by a supply chain operator, the operation comprising:

identifying, by a supply chain optimizer, a potential production configuration for the production supply chain for a supply chain, wherein

(i) the supply chain operator also operates at least one power generation facility to sustain industrial production by the production supply chain,

(ii) the supply chain operator is capable of both consuming and selling electricity produced by the power generation facility while operating the production supply chain,

(iii) the potential production configuration is related to a target electricity production by the power generation facility, and

(iv) the potential production configuration reduces a production output and energy consumption for at least some portion of the production supply chain or increases electricity production by the power generation facility during a given time period where a contracted price for the electricity exceeds a forecasted price;

determining, using a potential action valuation model, whether to reduce the production output of the production supply chain or increase electricity production by the power generation facility according to the potential production configuration to create the excess energy capacity for the production supply chain during the time period; and

if production output is determined to be reduced or electricity production by the power generation facility is determined to be increased, selling the excess energy capacity created by implementing the potential production configuration during the time period for the production supply ~~capacity~~ chain and the power generation facility.

29. (Previously Presented). The computer-readable medium of claim 28, wherein the potential action valuation model determines whether to reduce the production output of the production supply chain using a risk management model.

30. (Previously Presented). The computer-readable medium of claim 29, wherein the risk management model may be configured according to a set of risk tolerance criteria and risk performance criteria.

31. (Previously Presented). The computer-readable medium of claim 28, wherein the forecasted price for electricity during the time period is determined using a forecasting and planning model utilizing historical and real-time data.

32. (Previously Presented). The computer-readable medium of claim 28, wherein, if production output is determined to be reduced, prior to the time period, the operations further include increasing the production output of the supply chain to prepare of the reduced production of the supply chain for the time period.

33. (Previously Presented). The computer-readable medium of claim 28, wherein a data delivery engine is configured to supply real-time data to the potential action valuation model, supply chain optimizer, forecasting and planning model, and the risk management model.

34. (Previously Presented). The computer-readable medium of claim 33, wherein the real-time data includes real-time commodity prices for electricity.

35. (Previously Presented). A computing device, comprising:
at least one processor; and
a memory, wherein the memory includes a plurality of models, which when executed by the processor, are configured to identify an excess energy capacity in a production supply chain operated by a supply chain operator, including:
a supply chain optimizer configured to identify a potential production configuration for the production supply chain, wherein:

(i) the supply chain operator also operates at least one power generation facility to sustain industrial production by the production supply chain,

(ii) the supply chain operator is capable of both consuming and selling electricity produced by the power generation facility while operating the production supply chain,

(iii) the potential production configuration is related to a target electricity production by the power generation facility, and

(iv) the potential production configuration reduces a production output and energy consumption for at least some portion of the production supply chain or increases electricity production by the power generation facility during a given time period where a contracted price for the electricity exceeds a forecasted price;

a potential action valuation model configured to determine whether to reduce the production output of the production supply chain or increase electricity production by the power generation facility according to the potential production configuration to create the excess energy capacity for the production supply chain during the time period; and

a data delivery engine configured to supply real-time data to the potential action valuation model and to the supply chain optimizer.

36. (Previously Presented). The computing device of claim 35, wherein the potential action valuation model determines whether to reduce the production output of the production supply chain using a risk management model.

37. (Previously Presented). The computing device of claim 36, wherein the risk management model may be configured according to a set of risk tolerance criteria and risk performance criteria.

38. (Previously Presented). The computing device of claim 35, wherein the forecasted price for electricity during the time period is determined using a forecasting and planning model utilizing historical and real-time data.

39. (Previously Presented). The computing device of claim 35, wherein the real-time data includes real-time commodity prices for electricity.

40. (Previously Presented). The method of claim 21, wherein the production supply chain comprises one of an air component separation facility, an oil field electric pump network, a refinery, and a metal ore production facility.

41. (Previously Presented). The computer readable storage medium of claim 28, wherein the production supply chain comprises one of an air component separation facility, an oil field electric pump network, a refinery, and a metal ore production facility.

42. (Previously Presented). The computing device of claim 35, wherein the production supply chain comprises one of an air component separation facility, an oil field electric pump network, a refinery, and a metal ore production facility.